Publications

Journal Papers (Published):

1. Anarta Ghosh and Nicolai Petkov – *Robustness of Shape Descriptors to Incomplete Contour Representations*, IEEE Transactions on Pattern Analysis and Machine Intelligence. Vol. 27, No. 11, pp. 1793-1804, Nov. 2005.
2. Anarta Ghosh, Michael Biehl and Barbara Hammer – *Performance Analysis of LVQ Algorithms: A Statistical Physics Approach*, Neural Networks, special issue on Advances in Self-Organizing Maps. Vol. 19, pp. 817-829, 2006.
3. Michael Biehl, Anarta Ghosh and Barbara Hammer – *Learning Vector Quantization: The Dynamics of Winner-Takes-All Algorithms*, Neurocomputing. Vol. 69, pp. 660-670, 2006.
4. Anarta Ghosh and Nicolai Petkov – *A Cognitive Evaluation Procedure for Contour Based Shape Descriptors*, International Journal of Hybrid Intelligent Systems, Special Issue. Vol. 2, No. 4, pp. 237-252, 2006.
5. Anarta Ghosh and Nicolai Petkov – *Effect of High Curvature Point Deletion on the Performance of Two Contour Based Shape Recognition Algorithms*, International Journal of Pattern Recognition and Artificial Intelligence. Vol. 20, No. 6, pp. 913-924, 2006.

Journal Papers (Accepted With Minor Revision):

1. Michael Biehl, Anarta Ghosh and Barbara Hammer – *Dynamics and Generalization Ability of LVQ Algorithms*, Journal of Machine Learning Research.

Conference Proceedings:

1. Nicolai Petkov and Anarta Ghosh – *Recognition of Objects with Incomplete Representations*, In Proceedings of Advanced Concepts for Intelligent Vision Systems

(ACIVS'04). pp. 91-95, Brussels, Belgium, Aug. 31-Sept. 3, 2004.

2. Anarta Ghosh and Nicolai Petkov – *GAP Test: A Cognitive Evaluation Procedure for Shape Descriptors*, In Proceedings of Fourth International Conference on Hybrid Intelligent Systems (HIS'04). pp. 334-339, December 05-08, 2004, Kitakyushu, Japan.

3. Michael Biehl, Anarta Ghosh and Barbara Hammer – *The Dynamics of Learning Vector Quantization*, In Proceedings of 13th European Symposium On Artificial Neural Networks (ESANN'05). pp. 13-18, Bruges (Belgium), 27-28-29 April 2005.

4. Anarta Ghosh, Michael Biehl and Barbara Hammer – *Dynamics of LVQ Type Learning Rules*, In Proceedings of 5th Workshop On Self-Organizing Maps. WSOM'05, pp. 587-594, Paris, University Paris 1, Panthon-Sorbonne 5th-8th September 2005.

5. Anarta Ghosh and Nicolai Petkov – *Incomplete Contour Representations and Shape Descriptor: ICR test studies*, In Proceedings of 1st International Symposium on Brain, Vision and Artificial intelligence. (BV&AI 2005). 19-21 October, 2005, Palazzo Serra di Cassano Naples, Italy. Lecture Notes in Computer Science, Vol. 3704, pp. 416-425, 2005.

Technical Report:

1. Anarta Ghosh, Michael Biehl, Agnes Freking and Georg Reents – *A Theoretical Framework for Analysing the Dynamics of Learning Vector Quantization: A Statistical Physics Approach*, Technical Report: 2004-9-02; Institute of Mathematics and Computing Science, University of Groningen P.O.Box. 800, 9700 AV Groningen, The Netherlands.

Posters:

1. Michael Biehl and Anarta Ghosh – *Supervised and Unsupervised Vector Quantization: A Solvable Model*, 69th Annual Meeting of the Deutsche Physikalische Gesellschaft.

2. Michael Biehl, Anarta Ghosh and Aree Witoelar – *Dynamics of LVQ Algorithms*, Scientific ICT Research Event The Netherlands (SIREN 2005).